

## Welcome to bull country

**Have investors grown more courageous, or just more foolish? The outlook for the world economy may turn on the answer—and that depends on an elusive measure known as the “equity premium”**

EVERY day, it seems, another official joins the throngs who are warning the western world about overvalued stockmarkets. Even cautious central bankers have been speaking out. Alan Greenspan, chairman of America’s Federal Reserve, has mostly kept his counsel since the markets rudely ignored his mutters, 18 months ago, about “irrational exuberance”. But recently Hans Tietmeyer, president of Germany’s Bundesbank, joined the doom merchants, promising that a gathering of central bankers this week would discuss the problem “intensively”. And the International Monetary Fund has also declared that stockmarkets should be watched carefully.

Investors seem singularly unimpressed. The lead continues to be set by Wall Street, whose bulls have driven American share prices ever higher into the stratosphere. The Dow Jones Industrial Average hit a new all-time high of 9,246 on July 14th; European markets were not far behind. Triumphant bulls have come up with many different explanations for the markets’ exuberance. America’s corporations have discovered new, world-beating skills; the computer age has created a wholly different economy; the Asian crisis means money is desperately searching safer havens; or, in a nod to those

central bankers, monetary policy has killed inflation and even the business cycle. Yet none of these has converted the doomsters.

So now a new explanation is on offer. The key to Wall Street’s continuing miracle, bulls have started arguing, is more enduring even than their other claims: the new courage of small investors. The suggestion is that the rules they have followed in the past may no longer apply. Having overcome a previously irrational fear of the risks of equities, they are now pouring into them. And since their enlightenment is irreversible, the bulls conclude, the trend should continue indefinitely.

Although most popular in America, this argument is starting to be heard elsewhere too. Fund managers in Europe may be impressed by America’s low unemployment and high growth. But what they most want to borrow from across the Atlantic is the apparent change in investors’ attitudes. If governments would get out of the pension business and investors could be persuaded to buy more equity mutual funds, Europe could enjoy a similar bull run to Wall Street’s. Indeed, optimists believe that the recent run-up in European shares—they have mostly outpaced America’s this year—shows this is already happening.

Of course, there are still bulls who prefer to justify high share prices in traditional ways, predicting rampant growth in profits far into the future. But as America’s expansion starts to stutter, these claims are wearing thin. The total value of American equities is now \$12 trillion—double the level of two years ago—but profit growth has been slowing sharply. Thus the new reliance on investors’ changed attitudes. The message is: forget the New Economy; say hello to the New Investor.

### Returns to go

It is not just giddy portfolio managers who herald the New Investor’s arrival. As with most financial fashions, this one claims support from economists as well. They may use different jargon. But their belief in the New Investor is just as strong—perhaps because they have spent so long trying, and failing, to understand the old one.

The reason for their confusion is something called the “equity premium”. In essence, this is the average extra return (including dividends and capital gains) that investors expect to earn above that on safer investments—such as American Treasury bonds—if they invest in riskier equities instead. This number, which can be thought of as the current price of risk, has a huge influence on share prices.

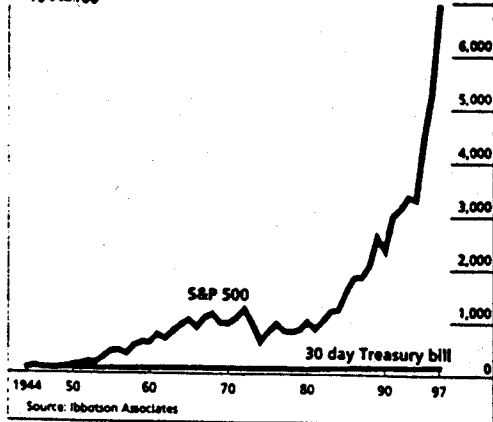
The equity premium has particularly troubled economists since 1985, when Rajnish Mehra and Edward Prescott published a paper\* arguing that it was too big to be consistent with prevailing theories. They assessed this by looking at almost a century of returns for American stocks and bonds. After adjusting for inflation, equities had average real returns of around 7% a year, compared with only 1% for Treasury bonds—a 6% equity premium (see chart 1 on next page).

A small premium seemed justified, since returns on equities had bounced around more than those on bonds—that is, stocks were riskier. But since they found a relatively small difference in risk between bonds and shares, a six-point premium looked ridiculously high. A smaller premium (prevailing theory suggested less than a percentage point) should have been enough to lure investors into shares; six points implied that investors were cowed by even the slightest risk of a loss. If people made daily decisions in the same way they invested money, few would ever cross the street. The economics profession, the authors concluded, had a puzzle on its hands.

\* “The Equity Premium: a Puzzle”. *Journal of Monetary Economics*. 1985.

## Too risky?

Cumulative annual real returns  
1944-100



Economists have been struggling to solve it ever since. Market watchers are starting to take a keen interest. It is not hard to see why. If the equity premium fell, it should be easier to persuade investors to buy shares. At present, when compared with the six-point premium investors appear to have demanded in the past, potential returns look too low to do that. But a smaller equity premium could make those low returns more than adequate—even with no improvement in the economic (and profit) outlook.

The upper half of chart 2 shows how heavily share prices can be affected by even small changes in investors' expected returns. Suppose, for example, that investors demand a 9% return on equities before they are willing to buy. And suppose that the expected growth in profits—and hence in dividends—is around 7½% for the foreseeable future. With 7½% dividend growth, investors would need only a 1½% dividend "yield" (the ratio of dividends to share prices) to be induced to buy. That is roughly the yield on the S&P 500 at the moment, suggesting that shares are currently priced about right.

Suppose, however, that investors really wanted a 10%, rather than a 9%, return. That may seem only a small difference. But if dividend growth remained unchanged, this small difference could have a devastating effect on shares. To deliver the extra percentage point in returns—with no change in future dividend growth—the current dividend yield would have to rise from 1½% to 2½%. And since dividends are unchanged, the only way for the yield to rise is for the price of shares to fall—in this case by a heart-stopping 40%. If you doubt whether the equity premium matters, the difference between a Dow above 9,000 and one of 5,400 ought to convince you.

What level of returns are investors in American markets demanding at present? Unfortunately, it is impossible to say. The current value of shares reflects a balance between the returns that investors want and the returns they actually expect. But neither figure can be estimated on its own. The best one can do is to work out combinations of equity premiums and dividend growth that are consistent with the current level of share prices.

The lower part of chart 2 does this. The third column shows different levels of the equity premium, ranging from zero to six percentage points. The fourth column shows different rates of growth in dividends (which over the long term must equal the growth in corporate profits). If the equity premium is still at its historic rate of six points, investors should require returns of 12% a year (the current yield on America's long bond is around 6%) before they buy shares. Since the current dividend yield is around 1½%, that means that profits must grow by around 10½% a year to justify the present price level of American equities.

By contrast, if the equity premium has vanished completely, the required return on shares is only 6%. Current share prices could then be supported by profit growth of only 4½% a year. No wonder America's bulls have discovered the equity premium. A determined optimist needs only to plug a lower risk premium into his trusty equation and—hey presto!—share prices look just right, or even a bit low.

To the uninitiated, this argument may seem circular. It amounts to saying that share prices have soared because investors are more confident, something most people might consider obvious. Yet focusing on the equity premium can still be useful. If it has shrunk, examining why can illuminate what has made investors more confident—and whether their confidence is sustainable.

Has the equity premium really shrunk? That depends on why it was so high in the first place. There is no shortage of explanations on offer. Some economists argue that the premium only seemed to be high because it was not measured properly. Economists can estimate the premium only retrospectively, assuming that over the long run investors have received roughly what they expected. If the American stockmarket has done better than anyone could have hoped, they might argue, using its performance to measure the equity premium may make it seem artificially high.

One recent study\* argues that this is precisely what the evidence from other stockmarkets shows. Using data from 39 national stockmarkets going back to the 1920s, William Goetzmann of Yale University and Philippe Jorion of the University of California, Irvine, found that investors in America were by far the luckiest, earning an annual real return of 5%, compared with an average of 1½% everywhere else. So measuring the equity premium using only American data could make it appear 3½ percentage points higher than it really is.

## Unprofitable future

If this argument is right, it is mixed news for today's investors. It may justify the present level of the market, but it also means that the extra rewards from investing in shares rather than bonds could be lower in future than they have been in the past 70 years. However, in a survey† of academic research on the equity premium, two other economists—Jeremy Siegel of the Wharton School and Richard Thaler of the University of Chicago—suggest that this argument is wrong. They agree that returns on American equities have been high by international standards, but point out that returns on American Treasury bonds have also been relatively high. In countries such as Germany and Japan, which have experienced massive share-price collapses in the 20th century, bond prices have fallen at the same time. They argue that since good and bad luck have extended to bonds as well as shares, the equity premium has not been artificially inflated.

These arguments offer several interesting ways of looking at the equity premium. One lies in a distinction between people's attitudes towards risk and the actual level of risk. Economists find the risk premium puzzling mainly because they do not understand why people are put off by the stockmarket's apparently low risk. But the \$12 trillion question is whether, in the long run, the market is really as safe as economists think it is. The past may not be a sure guide to the future. Equally, especially

\* "A Century of Global Stockmarkets". NBER Working paper. January 1997.

† "Anomalies: The Equity Premium Puzzle". Journal of Economic Perspectives. Winter 1997.

## Premium prices

### Required returns and market values

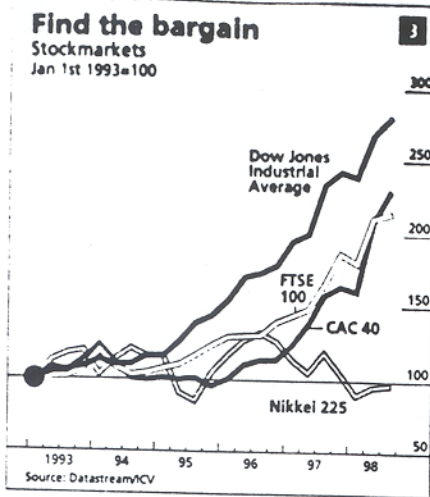
Required investor returns, %	Expected dividend growth, %	Implied S&P 500 dividend yield, %	Implied S&P 500 price-earnings ratio
9	7.5	1.5	15.0
10	7.5	2.5	9.0

### Equity premiums and dividend growth

Dividend yield, %	Treasury bond yield, %	Equity premium, %	Dividend growth, %
(A)	(B)	(A - B)	(C)
1.5	6	4.5	7.5
1.5	6	4.5	10.5
1.5	6	4.5	13.5
1.5	6	4.5	16.5

Source: Datastream/KCV





given the risk of inflation, bonds may not be as safe as markets assume—and equities, a better inflation hedge, may be safer.

Second, it is pointless to evaluate the stockmarket in isolation. The question is whether the market is fairly valued relative to the alternatives. The equity premium measures how the market is priced relative to American Treasury bonds. Since American interest rates are low, and investors no longer seem to fear inflation, shares look attractive relative to other domestic investments. But that says nothing about whether investors have too much money in America. The economies of continental Europe are beginning to grow faster; asset prices in Asia are a lot lower than they were a year ago. If investors have funnelled too large a proportion of their savings into American assets, both bonds and shares could be overvalued, even if the equity premium is about right.

The fact that economists cannot measure risk accurately, or explain why American investors have been so reluctant to diversify abroad, suggests that they have a long way to go before they understand investors' behaviour. They have crunched enough numbers over the years to know that, overall, the stockmarket behaves remarkably efficiently—more so than most investors realise. Yet when they come across a problem they cannot explain, their weak comprehension of investors' behaviour leaves them at a loss.

One example is to be found in the differences between the short and long terms. Young investors should have different priorities from older ones, since some of the risks of stocks balance out over time. Yet economists cannot agree on how to take account of these time horizons. In a recent study with two other co-authors\*, Mr Mehra, one of the economists who started it all, argues that the equity premium is so high because there is a fundamental gap between the investment goals of young and

\* "Junior Can't Borrow: A New Perspective on the Equity Premium Puzzle". Working paper, November 1997.

middle-aged workers. The stockmarket, he argues, offers a good hedge against uncertain wages: a worker skilled at, say, making cars risks seeing the value of his skills fade over time, but he can partly offset this by investing in different industries that contain future Microsofts as well as future GMs.

Many workers would be far better off if they could borrow lots of money while they are young and invest it in equities. When they are older, they might want to place more of their money in bonds, since uncertainty about their future wages has diminished and they no longer need equities to hedge their bets. However, since job skills do not make good collateral, young and old workers are unable to strike this bargain. This has the effect, Mr Mehra argues, of weakening the demand for equities. So buyers of equities get them cheap, earning a higher premium over time.

If this is right, the equity premium will have fallen permanently only if the constraints on would-be young investors have weakened. It is conceivable that defined-contribution pension accounts and easier access to loans have had this effect. But Mr Mehra argues that it is still almost impossible for young workers to borrow fully against expected future earnings. And according to his model, even small constraints on borrowing are able to generate a hefty premium on equities.

#### From theory to practice

These explanations are far from the only ones that economists have come up with. One of the most intriguing has been put forward by Mr Thaler. He asks what would happen if investors were to deviate from economists' textbook models in two ways: by focusing on the returns they earn, rather than the money they have to spend; and by judging the risk of an investment according to how often they look at their portfolio—even if their plan is never to change it. If investors do behave this way, Mr Thaler argues, a high equity premium becomes easier to understand. That is because the more often investors study their portfolios, the worse they will feel, and the more they will be intimidated by even small risks.

He shows this by inverting the logic of the equity premium debate. Using reasonable estimates of people's risk aversion, and taking into account the historic volatility of bond and share prices, he concludes that an average evaluation period of around 13 months is enough to explain investors' past behaviour. Such a period may seem all too familiar to fund managers dealing with league tables based on annual performance. But it also implies that as more of people's money is given to those fund managers, the equity pre-

mium should go up, not down.

The more economists grapple with the puzzle, in other words, the more different images of the stockmarket they come up with. In fact, to get their models to make sense, economists often assume that the equity premium changes over time—hardly a reassuring concept for those who are betting their pensions. Moreover, a recent survey of financial economists suggests that, even after 15 years of pondering the premium, estimates of its level still vary wildly. Ivo Welch, at the University of California, Los Angeles, surveyed over 100 financial economists at top business schools. A quarter of them think the premium is less than three percentage points; but another quarter put it above seven. For those who like to bet the averages, the economists' median estimate for the risk premium over the next 30 years is around six percentage points—suggesting that little has changed.

All of this should remind investors that they face another kind of risk, very different from those that economists and fund managers usually discuss. That is the risk that they have no idea what they are doing. Yes, the equity premium seems to have been inexplicably high in the past. And since investors in America (and, increasingly, Europe) have unprecedented access to mutual funds and to financial information, it is conceivable that their attitudes towards risk have changed fundamentally.

But given the slowdown in corporate profits, and the inflated price of American equities, it would take a massive drop in the equity premium—perhaps to only a percentage point or two—to make Wall Street seem cheap. And even if the premium had indeed fallen by that much, there could be no guarantee it will stay that low for ever. In short, since nobody really knows how big the equity premium is or what influences it, it would seem wise to assume that what goes up will also come down—eventually.

